

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY, UTTAR PRADESH,
LUCKNOW**



EVALUATION SCHEME AND SYLLABI

For

B. Tech. 1ST Year
Common to All Branches
EXCEPT Agriculture Engineering and Biotechnology

Effective from the Session: 2022-23

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY UTTAR PRADESH.
Sec-11, Jankipuram Vistar, Lucknow - 226031, Uttar Pradesh, India

Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
(College Code-786)

B. Tech. First Year, Semester- I
(All Branches except Agriculture Engineering and Biotechnology)

3- WEEKS STUDENT INDUCTION PROGRAMME
in the beginning of the session

| SN | Subject Code | Subject Name | Type | Category | Period | | | Evaluation Scheme | | | | | | Credit |
|----|-----------------------|--|------|-----------|-----------|----------|-----------|---------------------|----|---------------------------|--------------------------------|------------|-----------|--------|
| | | | | | | | | Sessional Component | | Sessional (SW) (TS/PS) | End Semester Examination (ESE) | Total | Cr | |
| | | | | | | | | CT | TA | | | | | |
| L | T | P | CT | TA | CT+TA | TE/PE | SW+ESE | Cr | | | | | | |
| 1. | BAS101/ BAS102 | Engineering Physics/ Engineering Chemistry | T | BS | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 | |
| 2. | BAS103 | Engineering Mathematics-I | T | BS | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 | |
| 3. | BEE101/ BEC101 | Fundamentals of Electrical Engineering/ Fundamentals of Electronics Engineering | T | ES | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 4. | BCS101/ BME101 | Programming for Problem Solving/ Fundamentals of Mechanical Engineering | T | ES | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 5. | BAS104/ BAS105 | Environment and Ecology/ Soft Skills | T | BS/ HS | 3 | 0 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 6. | BAS151/ BAS152 | Engineering Physics Lab/ Engineering Chemistry Lab | P | BS | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 7. | BEE151/ BEC151 | Basic Electrical Engineering Lab/ Basic Electronics Engineering Lab | P | ES | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 8. | BCS151/ BAS155 | Programming for Problem Solving Lab/ English Language Lab | P | ES/ HS | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 9. | BCE151 / BWS151 | Engineering Graphics & Design Lab/ Workshop Practice Lab | P | ES | 0 | 1 | 3 | - | 50 | 50 | 50 | 100 | 2 | |
| | | | | | 13 | 5 | 12 | | | 350 | 550 | 900 | 22 | |

Abbreviation Used:

- BS:** Basic Science Course
- ES:** Engineering Science Course
- HS:** Humanities and Social Science Course
- VA:** Value Added Course

C. S. S.
Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-786

B. Tech. First Year, Semester- II
(All Branches except Agriculture Engineering and Biotechnology)

| SN | Subject Code | Subject Name | Type | Category | Period | | | Evaluation Scheme | | | | | | Credit |
|-----|-------------------|---|------|-----------|--------|---|-----------|---------------------|-----|---------------------------|--------------------------------------|--------------|----|--------|
| | | | | | | | | Sessional Component | | Sessional (SW) (TS/PS) | End Semester Examination (ESE) | Total | Cr | |
| | | | | | | | | CT | TA | | | | | |
| 1. | BAS202/ BAS201 | Engineering Chemistry / Engineering Physics | T | BS | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 | |
| 2. | BAS203 | Engineering Mathematics-II | T | BS | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 | |
| 3. | BEC201/ BEE201 | Fundamentals of Electronics Engineering / Fundamentals of Electrical Engineering | T | ES | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 4. | BME201/ BCS201 | Fundamentals of Mechanical Engineering/ Programming for Problem Solving | T | ES | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 5. | BAS205/ BAS204 | Soft Skills / Environment and Ecology | T | HS/ BS | 3 | 0 | 0 | 20 | 10 | 30 | 70 | 100 | 3 | |
| 6. | BAS252/ BAS251 | Engineering Chemistry Lab / Engineering Physics Lab | P | BS | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 7. | BEC251/ BEE251 | Basic Electronics Engineering Lab/ Basic Electrical Engineering Lab | P | ES | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 8. | BAS255/ BCS251 | English Language Lab / Programming for Problem Solving Lab | P | HS/ ES | 0 | 0 | 3 | - | 50 | 50 | 50 | 100 | 1 | |
| 9. | BWS251/ BCE251 | Workshop Practice Lab / Engineering Graphics & Design Lab | P | ES | 0 | 1 | 3 | - | 50 | 50 | 50 | 100 | 2 | |
| 10. | BVA251/ BVA252 | Sports and Yoga / NSS | P | VA | 0 | 0 | 3 | | 100 | *100 | | *100 | 0 | |
| | | | | | 13 | 5 | 12+ 3* | | | 350+ *100 | 550 | 900+ *100 | 22 | |

*Compulsory Qualifying Audit Course

Abbreviation Used:

- BS:** Basic Science Course
- ES:** Engineering Science Course
- HS:** Humanities and Social Science Course
- VA:** Value Added Course

*Summer Internship (4-week) / NPTEL Course (4-week) during summer break
after Semester-II and same will be assessed/evaluated in the Semester-III*



Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code: TRF

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW



Evaluation Scheme & Syllabus

For

B.Tech. 2nd Year

- Computer Science & Engineering
- Computer Engineering
- Computer Science
- Computer Science and Engineering (Cyber Security)
- Computer Science and Information Technology
- Information Technology
- Computer Science and Engineering (Artificial Intelligence)
- Computer Science and Engineering (Artificial Intelligence & Machine Learning)
- Computer Science and Engineering (Data Science)
- Computer Science and Engineering (Internet of Things)
- Artificial Intelligence & Data Science
- Artificial Intelligence & Machine Learning
- Computer Science & Design
- Computer Science & Business Systems

(Effective from the Session: 2023-24)

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW



Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-786

SEMESTER –III

| SN | Subject Code | Subject | Type | Category | Periods | | | Sessional Component | | Sessional (SW) (TS/PS) | End Semester Examination (ESE) | Total SW+ESE | Credit Cr |
|----|--------------------|---|------|----------|-----------|----------|----------|---------------------|----|---------------------------|--------------------------------------|-----------------|--------------|
| | | | | | L | T | P | CT | TA | CT+TA | TE/PE | | |
| 1 | BOE3** / BAS303 | Science Based Open Elective/BSC (Maths- III/Math IV/ Math V) | T | ES/BS | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 2 | BVE301 / BAS301 | Universal Human Value and Professional Ethics/ Technical Communication | T | VA/HS | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 |
| 3 | BCS301 | Data Structure | T | PC | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 4 | BCS302 | Computer Organization and Architecture | T | PC | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 5 | BCS303 | Discrete Structures & Theory of Logic | T | PC | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 |
| 6 | BCS351 | Data Structure Lab | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 7 | BCS352 | Computer Organization and Architecture Lab | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 8 | BCS353 | Web Designing Workshop | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 10 | BCC301 / BCC302 | Cyber Security/Python programming | T | VA | 2 | 0 | 0 | 20 | 10 | 30 | 70 | 100 | 2 |
| 11 | BCC351 | Internship Assessment /Mini Project* | P | | | | | | | 100 | | 100 | 2 |
| | | Total | | | 15 | 5 | 6 | | | | | | 25 |


- **Mathematics –III** for CE / ENV and allied branches
- **Mathematics-IV** for Computer/Electronics/Electrical & allied Branches, Mechanical & Allied Branches
Textile/Chemical & allied Branches
- **Mathematics-V** for Bio Technology / Agriculture Engineering

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Director

Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code: 786

SEMESTER –IV

| SN | Subject Code | Subject | Type | Category | Periods | | | Sessional Component | | Sessional (SW) (TS/PS) | End Semester Examination (ESE) | Total SW+ESE | Credit Cr |
|----|-----------------|---|------|----------|-----------|----------|----------|---------------------|----|------------------------|--------------------------------|--------------|-----------|
| | | | | | L | T | P | CT | TA | | | | |
| 1 | BAS403 / BOE4** | BSC(Maths-III/Math IV/ Math V)/Science Based Open Elective | T | BS/ES | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 2 | BAS401 / BVE401 | Technical Communication / Universal Human Value and Professional Ethics | T | HS/VA | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 |
| 3 | BCS401 | Operating System | T | PC | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 4 | BCS402 | Theory of Automata and Formal Languages | T | PC | 3 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 4 |
| 5 | BCS403 | Object Oriented Programming with Java | T | PC | 2 | 1 | 0 | 20 | 10 | 30 | 70 | 100 | 3 |
| 6 | BCS451 | Operating System Lab | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 7 | BCS452 | Object Oriented Programming with Java Lab | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 8 | BCS453 | Cyber Security Workshop | P | PC | 0 | 0 | 2 | | 50 | 50 | 50 | 100 | 1 |
| 9 | BCC402 / BCC401 | Python Programming/Cyber Security | P | VA | 2 | 0 | 0 | 20 | 10 | 30 | 70 | 100 | 2 |
| 10 | BVE451 / BVE452 | Sports and Yoga - II / NSS-II | P | VA | 0 | 0 | 3 | | | 100 | | 100 | 0 |
| | | Total | | | 15 | 5 | 9 | | | | | | 23 |
| | | Minor Degree/ Honors Degree MT-1/HT-1 | | | | | | | | | | | |



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 Mangalmay Institute of Engineering & Technology
 Greater Noida (U.P.)-201310
 College Code-TRR

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW



Evaluation Scheme & Syllabus
For
B.Tech. 3rd Year
Artificial Intelligence and Data Science

(Effective from the Session: 2023-24)


Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code 786

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW


B.Tech. 3rd Year

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

CURRICULUM STRUCTURE

| SEMESTER- V | | | | | | | | | | | | | |
|-------------|-------------------|--|-----------|----------|----------|-------------------|----|-------|----|--------------|----|------------|-----------|
| Sl. No. | Subject Codes | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KCS501 | Database Management System | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 2 | KAI501 | Artificial Intelligence | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 3 | KCS503 | Design and Analysis of Algorithm | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 4 | Dept. Elective-I | Departmental Elective-I | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 5 | Dept. Elective-II | Departmental Elective-II | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 6 | KCS551 | Database Management System Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 7 | KAI551 | Artificial Intelligence Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 8 | KCS553 | Design and Analysis of Algorithm Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 9 | KCS554 | Mini Project or Internship Assessment* | 0 | 0 | 2 | | | | 50 | | | 50 | 1 |
| 10 | KNC501/ KNC502 | Constitution of India, Law and Engineering / Indian Tradition, Culture and Society | 2 | 0 | 0 | 15 | 10 | 25 | | 50 | | | |
| 11 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 17 | 3 | 8 | | | | | | | 950 | 22 |

*The Mini Project or internship (4 weeks) conducted during summer break after IV semester and will be assessed during V semester.


 Mangalmai Institute of Engineering & Technology
 Greater Noida (U.P.)-201310
 College Code 786

B.Tech. 3rd Year, ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| SEMESTER- VI | | | | | | | | | | | | | |
|--------------|---------------------|--|-----------|----------|----------|-------------------|----|-------|----|--------------|----|------------|-----------|
| Sl. No. | Subject Codes | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KAD601 | Data Analytics | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 2 | KCS602 | Web Technology | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 3 | KCS603 | Computer Networks | 3 | 1 | 0 | 30 | 20 | 50 | | 100 | | 150 | 4 |
| 4 | Deptt. Elective-III | Departmental Elective-III | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 5 | KOE06X | Open Elective-I | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 6 | KAD651 | Data Analytics Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 7 | KCS652 | Web Technology Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 8 | KCS653 | Computer Networks Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 9 | KNC601/ KNC602 | Constitution of India, Law and Engineering / Indian Tradition, Culture and Society | 2 | 0 | 0 | 15 | 10 | 25 | | 50 | | | |
| 10 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 17 | 3 | 6 | | | | | | | 900 | 21 |

Departmental Elective-I

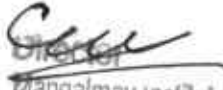
1. KAI051 Mathematical Foundation AI , ML and Data Science
2. KCS052 Web Designing
3. KDS051 Business Intelligence and Analytics
4. KCS054 Object Oriented System Design
5. KDS052 Distributed System

Departmental Elective-II

1. KML051 Cloud Computing
2. KAI052 Natural Language Processing
3. KCS056 Application of Soft Computing
4. KAI053 Intelligent Database System
5. KCS052 Compiler Design

Departmental Elective-III

6. KAI061 Cyber Forensic analytics
7. KDS061 Image Analytics
8. KAD061 Machine Learning Techniques
9. KML062 Stream Processing and Analytics
10. KDS063 Software Engineering


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 Mangalmay Institute of Engineering & Technology
 Greater Noida (U.P.)-201310
 College Code TR6

COMPUTER SCIENCE AND ENGINEERING/CS

**DR. A.P.J. ABDUL KALAM TECHNICAL
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



EVALUATION SCHEME & SYLLABUS

FOR

**B. TECH. FOURTH (IV) YEAR
(COMPUTER SCIENCE AND ENGINEERING/CS)**

AS PER

AICTE MODEL CURRICULUM

[Effective from the Session: 2021-22]

COMPUTER SCIENCE AND ENGINEERING/CS

B.TECH

(COMPUTER SCIENCE & ENGINEERING/CS) CURRICULUM STRUCTURE

| SEMESTER- VII | | | | | | | | | | | | | |
|---|---------------|--|-----------|----------|-----------|-------------------|----|-------|----|--------------|-----|------------|-----------|
| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU701/KHU702 | HSMC -1 / HSMC-2 | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | KCS07X | Departmental Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | KCS07X | Departmental Elective-V | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 4 | KOE07X | Open Elective-II | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 5 | KCS751A | The Department may conduct one Lab of either of the two Electives (4 or 5) based on the elective chosen for the curriculum. The Department shall on its own prepare complete list of practical for the Lab and arrange for proper setup and conduct accordingly. | 0 | 0 | 2 | | | | | 25 | 25 | 50 | 1 |
| 6 | KCS752 | Mini Project or Internship Assessment* | 0 | 0 | 2 | | | | | 50 | | 50 | 1 |
| 7 | KCS753 | Project | 0 | 0 | 8 | | | | | 150 | | 150 | 4 |
| 8 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 12 | 0 | 12 | | | | | | | 850 | 18 |
| *The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester. | | | | | | | | | | | | | |
| SEMESTER- VIII | | | | | | | | | | | | | |
| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU801/KHU802 | HSMC-1 ^a /HSMC-2 ^a | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | KOE08X | Open Elective-III | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | KOE08X | Open Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 4 | KCS851 | Project 1 | 0 | 0 | 18 | | | | | 100 | 300 | 400 | 9 |
| 5 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 9 | 0 | 18 | | | | | | | 850 | 18 |

COMPUTER SCIENCE AND ENGINEERING/CS

Departmental Elective-IV

1. KCS071 Artificial Intelligence
2. KCS072 Natural language processing
3. KCS073 High Performance Computing
4. KCS074 Cryptography and Network Security
5. KCS075 Design & Development of Applications
6. KCS076 Software Testing
7. KCS077 Distributed Systems

Departmental Elective-V

1. KCS078 Deep Learning
2. KCS079 Service Oriented Architecture
3. KCS710 Quantum Computing
4. KCS711 Mobile Computing
5. KCS712 Internet of Things
6. KCS713 Cloud Computing
7. KCS714 Blockchain Architecture Design

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW



Evaluation Scheme & Syllabus

For

B.Tech. 4th Year

Computer Science and Engineering

(Artificial Intelligence)

(Effective from the Session: 2023-24)

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Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
(College Code-786)

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW

B.Tech. 4th Year

COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE)

CURRICULUM STRUCTURE

| SEMESTER- VII | | | | | | | | | | | | | |
|---------------|--------------------------|--|-----------|----------|-----------|-------------------|----|-------|----|--------------|-----|------------|-----------|
| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU701/KHU702 | HSMC -1/ HSMC-2 | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | Departmental Elective-IV | Departmental Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | Departmental Elective-V | Departmental Elective-V | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| | KOE07X | Open Elective-II | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 5 | KCS751A | Departmental Elective Lab | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 6 | KCS752 | Mini Project or Internship Assessment* | 0 | 0 | 2 | | | | 50 | | | 50 | 1 |
| 7 | KCS753 | Project | 0 | 0 | 8 | | | | 50 | | 100 | 150 | 4 |
| 8 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 12 | 0 | 12 | | | | | | | 850 | 18 |

*The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.

**Department may conduct one Lab of based on either Data Warehousing and Data Mining or Cloud Computing.

SEMESTER- VIII

| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
|---------|---------------|------------------------------------|----------|----------|-----------|-------------------|----|-------|-----|--------------|-----|------------|-----------|
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU801/KHU802 | HSMC-1/HSMC-2 | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | KOE08X | Open Elective-III | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | KOE09X | Open Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 4 | KCS851 | Project | 0 | 0 | 18 | | | | 100 | | 300 | 400 | 9 |
| 5 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 9 | 0 | 18 | | | | | | | 850 | 18 |



Mangal Institute of Engineering & Technology
Greater Noida (U.P.)-201310
(College Code-788)

Departmental Elective-IV

1. KAI071 Optimization in Machine Learning
2. KCS072 Natural language processing
3. KAI073 Text Analytics and Natural Language Processing
4. KCS074 Cryptography and Network Security
5. KAI075 Data Warehousing and Data Mining
6. KAI076 Time series analysis and Forecasting
7. KAI077 Software Engineering

Departmental Elective-V

1. KAI078 Nature-Inspired Computing
2. KAI079 Distributed Computing System
3. KCS710 Quantum Computing
4. KCS711 Mobile Computing
5. KCS712 Internet of Things
6. KCS713 Cloud Computing
7. KCS714 Blockchain Architecture Design



Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
(College Code-786)

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW



Evaluation Scheme & Syllabus

For

B.Tech. 4th Year

Computer Science and Engineering

(Data Science)

(Effective from the Session: 2023-24)



Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-786

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW

B.TECH 4th Year

COMPUTER SCIENCE AND ENGINEERING


(DATA SCIENCE)

| SEMESTER- VII | | | | | | | | | | | | | |
|---------------|--------------------------|--|-----------|----------|-----------|-------------------|----|-------|----|--------------|-----|------------|-----------|
| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU701/KHU702 | HSMC -1 / HSMC-2 | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | Departmental Elective-IV | Departmental Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | Departmental Elective-V | Departmental Elective-V | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 4 | KOE07X | Open Elective-II | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 5 | KCS751A | Departmental Elective Lab** | 0 | 0 | 2 | | | | 25 | | 25 | 50 | 1 |
| 6 | KCS752 | Mini Project or Internship Assessment* | 0 | 0 | 2 | | | | 50 | | | 50 | 1 |
| 7 | KCS753 | Project | 0 | 0 | 8 | | | | 50 | | 100 | 150 | 4 |
| 8 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 12 | 0 | 12 | | | | | | | 850 | 18 |

*The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.

**Department may conduct one Lab of based on either Data Mining & Warehousing or Cloud Computing.

| SEMESTER- VIII | | | | | | | | | | | | | |
|----------------|---------------|--|----------|----------|-----------|-------------------|----|-------|-----|--------------|-----|------------|-----------|
| Sl. No. | Subject | Subject | Periods | | | Evaluation Scheme | | | | End Semester | | Total | Credit |
| | Codes | | L | T | P | CT | TA | Total | PS | TE | PE | | |
| 1 | KHU801/KHU802 | HSMC-2 [#] /HSMC-1 [#] | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 2 | KOE08X | Open Elective-III | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 3 | KOE09X | Open Elective-IV | 3 | 0 | 0 | 30 | 20 | 50 | | 100 | | 150 | 3 |
| 4 | KCS 851 | Project | 0 | 0 | 18 | | | | 100 | | 300 | 400 | 9 |
| 5 | | MOOCs (Essential for Hons. Degree) | | | | | | | | | | | |
| | | Total | 9 | 0 | 18 | | | | | | | 850 | 18 |



Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code 786

Departmental Elective-IV

1. KDS071 Artificial Intelligence
2. KCS072 Natural language processing
3. KDS073 Text Analytics
4. KCS074 Cryptography and Network Security
5. KAI075 Data Warehousing and Data Mining
6. KAI076 Time series analysis and Forecasting
7. KDS077 Nature-Inspired Computing

Departmental Elective-V

1. KDS078 Deep Learning
2. KDS079 Service Oriented Architecture
3. KCS710 Quantum Computing
4. KCS711 Mobile Computing
5. KCS712 Internet of Things
6. KCS713 Cloud Computing
7. KCS714 Blockchain Architecture Design



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